

IV. REMARKS

Applicants have amended the Specification to update the status of patent applications referenced therein. Applicants have also amended the Specification and Claims to correct the informalities noted by the Examiner, as well as correct other informalities.

Rejections under 35 U.S.C. § 102

Claims 1-4, 22, 33-34, 36, 38-42, 55-61, 63, 67, 73, 78-79, 93-94, 97-98, 100, 102, 125, 129, and 131-134 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,699,539 to Garber et al. ("Garber").

Rejections under 35 U.S.C. § 103

Claims 5-9, 17-21, 25-28, 35, 37, 43-45, 62, 64-66, 68-72, 74-76, 80-89, 95-96, 99, 101, 103-117, 126-128, and 130 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,699,539 to Garber et al. ("Garber").

Allowable Subject Matter

Applicant appreciates the Examiner's indication that claims 10-16, 23-24, 29-32, 46-54, 77, 90-92, and 118-124 would be allowable if rewritten in independent form.

For the reasons discussed below, Applicants respectfully traverse the Examiner's claim rejections under §§ 102 and 103 in view of Garber.

As discussed in Applicants' application, prior art computing systems having virtual memory capability typically use non-volatile memory (*e.g.*, a hard disk) as a secondary memory to provide the appearance of a greater amount of system memory. *See* page 1, lines 27-30. Applicants' application further notes that it is desirable to provide a method of increasing the effective size of system memory without having to rely on non-system memory (*e.g.*, the hard disk) as secondary memory.

Garber also discusses prior art virtual memory systems that rely on both primary (system memory) and secondary (hard disk) memory. *See* Col. 2, line 31 to Col. 3, line 52. Garber discloses a virtual memory system which is more reliant on primary memory, but nonetheless continues to rely on secondary memory. In Garber's system, uncompressed pages in current use are stored in a work space in system memory. On the other hand, all pages swapped out of the work space are stored in Mapped Out Storage Space that includes: (1) a portion of the system memory, identified as the Compression Heap; and (2) the computer's secondary memory (*i.e.*, hard disk). *See* Col. 3, line 66 to Col. 4, line 10. Garber further teaches that "in the preferred embodiment, for a computer system with 8 Mbytes of RAM, the virtual memory address space will be 16 Mbytes and the portion 132 of secondary memory included in the mapped out storage space will be 8 Mbytes. Col. 6, lines 54-59. Garber discloses that preferably few, if any, pages are swapped out to secondary memory. *See* Col. 3, line 66 to Col. 4, line 3. Nonetheless, as is clear from Garber, the virtual memory system relies on the presence of the secondary memory. In particular, when insufficient space is available in the primary memory portion of the Compression Heap to store swapped out pages, such pages are stored in secondary memory. *See* Abstract.

Unlike Garber, Applicants' claimed invention does not rely on secondary memory. Applicants' claimed memory system does not increase the effective size of system memory by relying on secondary memory to store the least used pages. Instead, in Applicants' claimed memory system, the effective size of system memory is increased by storing the least used pages in a compressed format in system memory. *See, e.g.*, page 19, lines 9-11.

Each of the claims in Applicants' application is directed to the management of compressed and uncompressed pages in physical memory, "wherein the physical memory comprises the system memory." *See, e.g.*, claims 55 and 61. None of Applicants' claims are directed to a system that relies

on secondary memory. Accordingly, for at least these reasons, Applicants submit that all the pending claims are allowable over Garber.

With regard to the Examiner's claim rejections under § 103 in view of Garber, Applicants respectfully submit that the Examiner has not met his burden of factually supporting his position that the claim elements not taught by Garber would have been "obvious" or "well-known."

It is the Examiner's burden to factually support any prima facie conclusion of obviousness. The Examiner's duty may not be satisfied by engaging in impermissible hindsight; any conclusion of obviousness must be reached on the basis of facts gleaned from the prior art. See MPEP §§ 2141-2144.

In a recent decision from the United States Court of Appeals for the Federal Circuit, the Federal Circuit noted that when the patent examiner and Board "rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record." *In re Sang-Su Lee*, 277 F.3d 1338, 1345 (Fed. Cir. 2002). Specifically, the Federal Circuit noted that conclusory statements about what is "basic knowledge" or "common sense" by themselves do not adequately support a determination of unpatentability. See *Id.* at 1343-44. Thus, the Federal Circuit held that findings of obviousness based on "common knowledge" must be supported by documented evidence that such knowledge exists. See *Id.* at 1344-45.

Here, the Examiner has only offered conclusory statements that the claim elements not taught by Garber would have been "obvious" or "well-known." The Examiner has not supported such statements with documented evidence, as he is required to do. Accordingly, the claims rejected under § 103 are allowable over Garber for at least this additional reason.

V. CONCLUSION

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

Respectfully submitted,



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CERTIFICATION UNDER 37 C.F.R. § 1.8

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